



## SpeedDome® Ultra VII Day/Night

PROGRAMMABLE DOME CAMERA



### FEATURES

- Advanced DSP CCD camera
- 23x optical zoom with 10x digital magnifier (230x total zoom)
- Accepts select competitors' protocols (see your sales representatives for details)
- Freeze frame on presets (user-selectable on/off)
- Open shutter to capture images in very low light
- Wide dynamic range
- Select from two housing/eyeball assembly colors: black or white
- Infrared mode
- Continuous autofocus
- Zoom adjusted programming
- Dome usage statistics
- Supports SensorNet, RS-422, and Manchester protocols
- Dome-generated on-screen text including direction indicators
- Up to eight privacy zones
- Two mounting base options
- Programmable presets, patterns and area names
- 96 presets (controller dependent)
- Alarm inputs and outputs
- Password protection
- Automatic home position
- Automatic proportional flip and Automatic Gain Control, line-lock and white balance (user-selectable on/off)

The current state-of-the-art, SpeedDome Ultra VII Day/Night utilizes a 23x optical zoom combined with a 10x digital zoom, providing a 230x total zoom.

Digital signal processing (DSP 6) provides enhanced clarity, color and detail in well lit or low light applications.

The dome's internal multiprotocol receiver enables the dome to be connected directly to a host of systems including those from other vendors.

An optional feature freezes the image when moving to a preset thereby reducing hard drive space when the video is digitally recorded.

Privacy zones can be set up to prevent users from viewing sensitive areas. The dome's direction indicators, which can be displayed on the monitor, denote the direction the dome is pointing, the direction in which it is moving, and the dome's azimuth (degree of tilt). The dome supports up to sixteen user-definable areas. The dome's advanced alarm handling enables alarms to be processed internally by the dome, externally by the controller, or by both the dome and the controller. A "home position" feature allows users to establish a default preset or pattern for the dome when the dome is not in use. The dome has the ability to provide statistics on pan, tilt and zoom usage indicating how little or how often the dome is controlled.

Other features include wide dynamic range, infrared mode, password-protection, dome-generated programmable on-screen text, and user-definable settings for features such as line-lock, maximum zoom, direction indicators, proportional flip, AGC and white balance.

SpeedDome Ultra VII is available in either black or white housing/eyeball assemblies depending on the installation requirements. The dome also provides two "twistlock" mounting base options. The standard base is the value priced mounting base alternative; the I/O board base provides unsurpassed ease of installation, service, and maintenance.

The SpeedDome Ultra Outdoor Housing is available to extend surveillance to outdoor environments. The housing now features a reinforced Outdoor Housing as standard and a heavy duty Vandal Resistant Housing Kit option.

## FEATURES

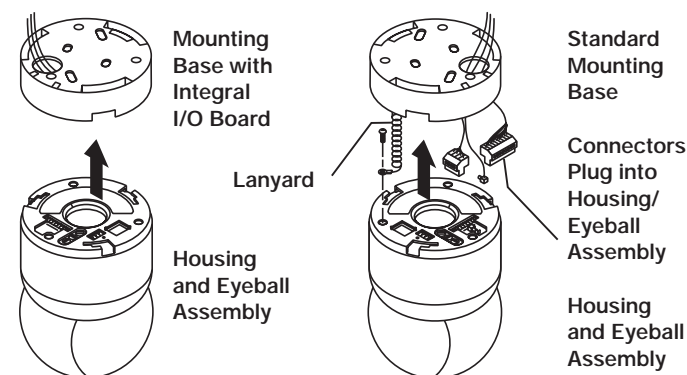
- The camera's 23x optical zoom is combined with a 10x digital magnifier, providing the power of a 230x total zoom.
- The SpeedDome Ultra VII Day/Night can clearly distinguish scenes and colors in lighting conditions as low as 0.5 lux and .009 lux in black and white mode.
- In addition to SensorNet, Manchester, and SEC RS-422 codes, the dome can be controlled via other select manufacturer's protocols making it a perfect choice for installers wanting to replace older PTZs.
- Up to eight different sized privacy zones can be programmed to prevent users from viewing sensitive areas. The zones automatically change size proportionally.
- The dome maintains statistics on how long it has been on, duration of pan/tilt/zoom movements, number of presets selected and other usage information.
- Users can adjust the white balance manually or have the camera set it automatically. White balance is normally compensated for by the Automatic Tracing White Balance (ATW). However, in some lighting conditions it may be necessary to manually adjust the red and blue settings for optimal viewing.
- Users can set the Automatic Gain Control (AGC) on/off, and when it is turned off, users can manually set the gain. AGC helps compensate for low lighting conditions.
- Focus Preference provides continuous autofocus with manual override.
- Users can set automatic dome flip on/off. With this feature turned on, the dome will automatically turn 180° when the camera tilts to its lower limits and stays in that position for a brief speed-proportional delay. Turned off, users can still manually flip the dome.
- The dome supports up to three Patterns. Preprogrammed default spiral pan pattern ("apple peel") covers the entire viewing area.
- The dome supports up to 96 Presets when used with suitably equipped controllers.
- When using the Freeze Frame feature, before moving to a preset, the dome image will freeze which minimizes hard drive usage when video is digitally recorded.
- Zoom Adjusted Program (ZAP) automatically adjusts pan and tilt speeds in proportion to zoom position, even at maximum magnification.
- Alarms can be processed internally by the dome, externally by the controller, or by both the dome and the controller. Each of the dome's alarm inputs can automatically call a preset or run a pattern when the alarm is activated.
- The dome supports up to 16 areas. Users can assign names (up to 19 characters long) and boundaries to these areas; each area can be a different size.
- "Home position" is the position that a dome returns to after it remains inactive for a specific period of time. This ensures that even when the dome is unattended, it will always be pointing to a key area of the facility. The user can define that preset or pattern, and also how long (from 1 to 60 minutes) before a dome returns to its home position.
- The dome generates on-screen text including Dome, Area, Preset, Pattern, and Alarm names, as well as direction indicators. These indicators show users the direction the dome is currently pointing, as well as the direction in which it is moving. In addition, the direction indicators display the dome's azimuth (degree of tilt).
- On-screen text also indicates zoom, focus, and iris status. All name information is user-definable and can be turned on or off. When on it can be set for solid or translucent white, and with or without black outline.
- The wide dynamic range feature allows for better viewing of scenes with contrasting light levels.
- On-screen text supports six languages: English, French, Italian, Spanish, German and Portuguese.
- Password protection prevents unauthorized use of the configuration utility.
- The dome incorporates an innovative twist-lock release from the mounting base for easy installation and servicing.
- The fully isolated power supply helps eliminate ground loops.
- Users can set line-lock on or off. Line-lock is enabled to help prevent vertical rolling in multi-camera applications.

- Vertical sync phase adjustment is provided to help compensate for different phases of power when line-lock is enabled, making it ideal for single and multi-phase power installations.
- Sensing of 50/60 Hz line is automatic and does not require manual adjustment.
- Surge protection is provided for video, code, alarms and power connections.
- Daisy chain configuration of control wiring is enabled:
  - For RS-422: 10 domes at a maximum distance of 1 km (3000 ft) on two 22 AWG shielded twisted pairs (STP).
  - For SensorNet: 32 devices at a maximum distance of 1 km (3000 ft) on one 22 AWG unshielded twisted pair (UTP).
  - For Manchester: 3 domes at a maximum distance of 1500 meters (5000 ft) on one 18 AWG shielded twisted pair (STP).
- The features of the SpeedDome Ultra VII can be extended to outdoor environments via the SpeedDome Ultra Outdoor Housing. The outdoor housing, designed especially for the SpeedDome Ultra's small, unobtrusive size, makes it the perfect protection for the dome. The Housing now features a Reinforced Outdoor Housing as standard and a heavy duty Vandal Resistant Housing Kit option.

## TWO MOUNTING BASE OPTIONS

The housing/eyeball assembly twist-locks into both mounting bases. The I/O board base connects the housing/eyeball assembly in one step. Power, communication, and video cables (or composite cable) are connected one time to an I/O PC board in the mounting base, so the assembly is simply "twist-locked" onto the base. Service and maintenance are easy and can be accomplished – without a ladder or lift – via the Installation/Removal Tool. The I/O board mounting base supports four alarm inputs and four alarm outputs as well as power and communication LEDs.

The standard base connects the housing/eyeball assembly in two steps. First, power, communication, and video cables (or composite cable) are inserted through the base and attached to the assembly. Then the assembly is connected to the base. The standard mounting base supports one alarm input and one alarm output. The Installation/Removal Tool cannot be used to install this configuration.



## SPECIFICATIONS

### Operational

Manual Pan/Tilt Speed	0.25° - 100° per second (based on zoom position)
Preset Pan/Tilt Speed	220° per second, maximum
Pan Travel	360° continuous
Tilt Travel	110°
Pan/Tilt Accuracy	± 0.5°
Zoom/Focus Accuracy	± 0.5%
Total Zoom	230x
Optical Zoom	23x
Digital Zoom	10x
Zoom Pause	23x or 35x
Zoom Stop	Selectable: 23x, 35x (zoom pause default), 46x, 69x, 92x (zoom stop default), 115x, 138x, 161x, 184x, 207x, and 230x

Controller	Programmable Presets		
	SensorNet	Manchester	RS-422
ADTT16E	96	N/A	N/A
ADTT16E via RCSN422	N/A	N/A	4
MegaPower 48	96	64	96
MegaPower 168 via CCM	64	64	64
MegaPower 168 via AD2091	N/A	64	N/A
MegaPower 168 via AD2083-02B	N/A	N/A	16
MegaPower 1024 via AD2091	N/A	64	N/A
MegaPower 1024 via AD2083-02B	N/A	N/A	16
AD2150	N/A	64	N/A
AD2150 via AD2083-02B	N/A	N/A	16
VM96	Unlimited	N/A	Unlimited

Programmable Patterns	3
Programmable Areas	16
Programmable Privacy Zones	8
Direction Indicators	Yes
Auto Synchronization	
Line-Locked	Remote V-phase adjustment
Internal	Built-in sync generator
Address Range	
RS-422/RS-485	1-99
Manchester	1-64
SensorNet	1-255
Alarm Inputs	
With I/O Board	4 dry contacts/3.5 mA sink
Without I/O Board	1 dry contact/3.5 mA sink
Alarm Outputs	
With I/O Board	4 open collector drivers at 12 VDC, 40mA
Without I/O Board	1 open collector driver at 12 VDC, 40mA
Menu Languages	English, French, German, Italian, Spanish, Portuguese

### Electrical

Input Voltage	16 to 30 VAC, 50/60 Hz Class 2 LPS
Design Tolerance	20 to 36 VAC, 50/60 Hz
Power	16 watts
Power On In-Rush Current	1.5 amps
Allowable Drop-Out	100 µsec
Surge Protection	
Video	Low-capacitance Zener suppressor of 6.5 V, 1500 watts
SensorNet/Manchester	Isolation transformer coupled, 2000 Vrms; PTC resettable fuse protects transformer; 9.8V/1A, 500 watts, 8/20 µsec impulse; 10kA impulse rated gas tube
RS-422/RS-485	TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse
Alarm Input/Aux Outputs	TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse
Power Line	TVS rated at 60 V, 250 A, 1.5 joules, 8/20 µsec impulse

### Cameras

NTSC	
Effective Pixels	768 (H) x 494 (V) pixels
Scanning	525 lines, 60 fields, 30 frames
Horizontal	15.734 kHz
Vertical	59.9 Hz
PAL	
Effective Pixels	752 (H) x 582 (V) pixels
Scanning	625 lines, 50 fields, 25 frames
Horizontal	15.625 kHz
Vertical	50 Hz
All Cameras	
White Balance	Through the Lens (TTL) Automatic Tracing White Balance (ATW)
Horizontal Resolution	470 lines at center
Imager	Interline transfer 1/4-inch CCD array
Scanning System	2:1 interface
Video Output	1.0 Vp-p, 75 Ω composite
S/N Ratio	50 dB (typical)
Minimum Illumination	Better than 0.5 lux (20 IRE, AGC) on 0.03 lux with 1/4 sec open shutter 0.01 lux in black and white IR mode 0.009 lux in black and white mode with 1/4 sec open shutter

### Lens

Design	Aspherical
Aperture	f1.6
3.6 mm	54.0° (H) x 40.5° (V)
88 mm	2.5° (H) x 1.9° (V)
Focal Length	3.6 to 82.8 mm
Field of View Formulas	
Horizontal View = (.8 x A)/B	
Vertical View = (.6 x A)/B	
A = distance from camera in meters or feet	
B = zoom power (e.g. 1-242x)	

**Mechanical**

Height .....	205 mm (8 in)
Diameter .....	120 mm (4.7 in)
Weight	
Housing and Eyeball .....	1.18 kg (2.6 lbs)
Base (standard) .....	0.09 kg (0.20 lbs)
Base (with I/O board) .....	0.16 kg (0.35 lbs)

**Environmental**

Operating Temperature .....	-10° to 50° C (14° to 122° F)
Humidity .....	0 to 95% RH (non-condensing)
Storage Temperature .....	-20° to 65° C (-4° to 149° F)

**Regulatory**

Emissions .....	FCC: 47 CFR Part 15 Subpart B Class A CE: EN55022 Class B CE: EN6100-3-2 CE: EN6100-3-3 AS/NZS 3548, Class A CISPR22 ICES-003
Immunity .....	CE: EN50130-4
Safety .....	UL: UL1950 CUL: CSA 22.2 No. 950 CE: EN60950 IEC950

**Model Numbers**

Housing/Eyeball Assembly without Mounting Base	
RAS917LS .....	Color Day/Night NTSC (black camera body)
RAS917LS-1 .....	Color Day/Night PAL (black camera body)
RAS917WLS .....	Color Day/Night NTSC (white camera body)
RAS917WLS-1 .....	Color Day/Night PAL (white camera body)

Mounting Base Without Housing/Eyeball Assembly	
RUPTB .....	Standard Base (black base)
RUWPTB .....	Standard Base (white base)
RUIOB .....	I/O Board Base (black base)
RUWIOB .....	I/O Board Base (white base)

**Housing/Eyeball Assembly with Mounting Base****Dome with Standard Base**

RAS917LSP .....	Color Day/Night NTSC (black assembly and base)
RAS917LSP-1 .....	Color Day/Night PAL (black assembly and base)
RAS917WLSP .....	Color Day/Night NTSC (white assembly and base)
RAS917WLSP-1 .....	Color Day/Night PAL (white assembly and base)

**Dome with I/O Board Base**

RAS917WLSI .....	Color Day/Night NTSC (white assembly and base)
RAS917WLSI-1 .....	Color Day/Night PAL (white assembly and base)
RAS917LSI .....	Color Day/Night NTSC (black assembly and base)
RAS917LSI-1 .....	Color Day/Night PAL (black assembly and base)

**Options****Optional Bubbles for RHIUTH Top Hat Mount**

RUCLR .....	Clear Bubble (f0)
RUSLV .....	Silver Bubble (f2.0)
RUSMK .....	Smoked Bubble (f1.0)
RUGLD .....	Gold Bubble (f2.0)

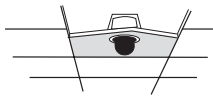
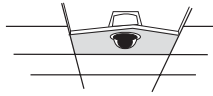
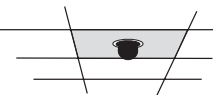
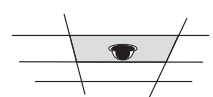


Note: Bubble diameter = 176 mm (6.93 in); bubble depth = 86.5 mm (3.4 in); bubble weight = 0.13 kg (4.4 oz) with trim ring

**Installation and Removable Accessory**

RHIRT .....	Installation and Removal Tool
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**DOMES KITS**

SpeedDome Ultra VII can be ordered as pre-configured kits. A kit includes a color camera module, base, mount and housing. Bubbles may be included as noted. Refer to the following chart for a description of the components within each Dome Kit.

Model Numbers	What's included
RAS917IH 	RAS917LSI RHIUTH RHIUHC
RAS917IHS 	RAS917LSI RHIUTH RHIUHC RUSMK
RAS917I2X2 	RAS917LSI RHIU2X2M
RAS917I2X2S 	RAS917LSI RHIU2X2M RUSMK
RAS917OPC 	RAS917LS RHODUL-03
RAS917OPCW 	RAS917LS RHODUL-03 RHOLW